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ABSTRACT

The educational assessment of basic skills in Michigan has grown from a needed source of information on achievement to an integral part of statewide efforts to improve school achievement. The educational assessment program first provided information to address two important educational questions: "What is the level of basic skills achievement in Michigan?" and "Which children, schools and school districts are successful and which are in need of assistance?" A third question, "What makes some schools more successful than others?" was then raised. This more complex question goes far beyond assessment practices and has served as the basis for extensive studies and reviews of the literature. A synthesis of the findings resulted in the identification of eight principles, or "Variables that Make a Difference." The "alterable variables" school staff may employ at the school level to improve instruction and achievement, are identified as: time on instruction, parental involvement, role of the principal, teacher expectations, classroom structure, pupil reinforcement, tutoring and classroom recitation. (Author)

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STATE ASSESSMENT:

A BEGINNING TOWARD SCHOOL IMPROVEMENT

by

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I'd like to preface my presentation by saying that the Michigan State Assessment Program and related activities evolved over a ten year period. I was involved in the process and because of this close involvement may tend to attribute more to state assessment than is the case. What has happened was influenced by many people from local school districts, state and national organizations, citizens and others. Also, we have been blessed with a staff who saw the program through stormy formative years--when as a pioneering effort assessment was synonomous with accountability and controversy. Persons like Bob Huyser, Ed Roeber, Dan Schooley, Tom Fisher and Judy Moyer, to name only a few you know, were instrumental in designing the present program.

These persons and others in the Department of Education working with local Michigan educators developed not only a state assessment program, but also support programs and materials designed to enhance instruction for children and youth. The Michigan Educational Assessment Program supports instructional programs by providing basic skills achievement information to parents, teachers and pupils throughout the schooling process. It is part of a formative program to improve Michigan education.

It began as an elementary-middle school assessment of basic reading and mathematics skills, came to include periodic assessments of the essential skills (i.e., science, social studies, art, music, health education); and in the past few years has grown to include assessments of basic skills at the beginning of high school, and a pilot program to study the application of basic skills in life role situations. This latter program is focused at the secondary school level and on the preparation of our young to assume family, work, and citizen roles and to appreciate life.

State assessment in Michigan has been just the beginning of a larger undertaking and longer process. It has been the catalyst to initiate a set of common expectations for achievement, to study and improve school curricula and management, and to report to the public and parents in achievement terms. We have been motivated, as educators, to address new and increasingly more difficult questions.

For example, the State Board of Education is responsible for the general supervision and leadership of education, but in the late 1960s found a paucity of achievement data to help them discharge their responsibility. Thus, they posed the question in 1968--what is the level of basic skills achievement in Michigan? It was first necessary to define what should be taught, before the level of achievement could be properly addressed. Common goals and performance objectives were stated, and assessment tests were developed based on the objectives.

The results from the objective referenced assessments were used as the indicators of the status and progress of basic skills achievement to answer the State Board of Education question. Also, information from these assessments were reported to curriculum specialists, especially the Michigan Council of Teachers of Mathematics and the Michigan Reading Association, who, together with Department staff, used the information to review and revise the minimum objectives and assessment tests--a formative use of the assessment data. The revised tests were used statewide for the first time in 1980, and these data have become achievement benchmarks for the decade of the 1980s.

State assessment now is accepted as a good indicator of the level of achievement in Michigan and a valuable curriculum tool.

A <u>second question</u>, initially raised in 1970, was--Who are the children, and which are the schools and districts, that are successful, and which are

the ones in need of assistance? To answer this question required first some definition of standards for judging. Criteria for mastery on performance objectives, and school needs criteria--low, moderate, high, improving, declining--were set by the State Board of Education in 1976. These criteria were based on the concentration of low achieving pupils in the school building, and whether or not the proportion was increasing or decreasing over the previous three year period.

Thus, State assessment provided data which allowed judgements to be made about the level of need, and identify where assistance was most needed. Policy initiatives and resource allocations were focused on those schools and districts with the highest needs.

A third question was raised in 1974 and was more complex, but also more important than the first two. It was...what makes some schools more successful than others?

This question, and the corollary to it...how can we use our knowledge to make all schools more successful?...sum up the assessment mission which began over a decade ago.

You see, as we moved through the last decade with Michigan Assessment there were, and remain now, two overriding beliefs to guide us--

1. All Children Can Learn (a fundamental belief of Benjamin Bloom and other proponents of "mastery learning"), and
2. Schools Can and Do Make a Difference.

It is with these two beliefs that we began state assessment, and these beliefs are the reasons why it continues to be an important part of basic skills instructional planning in Michigan.

Along the way a third belief (supported by research) was added,

Educational improvements are best made at the school building level.

And I might add another, personal belief, (one many of you share)

Educators - people - in a school, working together, can solve educational problems and improve instruction and achievement.

It is this school effectiveness question that I would like to pursue with you today. Over the past decade--mostly in the last one-half of the decade--much attention has been directed to identifying the characteristics of schools which lead to success...success defined in many terms, but primarily in terms of pupil achievement.

Prior to the 70's, researchers, such as Coleman, 1967, tended to explain school achievement in terms of out-of-school factors (race, tax base, SES). The studies of the 1970's were primarily interested in variables and conditions which educators can influence through their behavior--i.e., alterable variables as Benjamin Bloom calls them. He has said:

> If we are convinced that a good education is necessary for all who live in a modern society, then we must search for the alterable variables which can make a difference in the learning of children and adults in or out of school. Such alterable variables will do even more to directly improve the teaching and learning processes in the school. Our basic research task is to further understand how such alterable variables can be used and their consequent effects on students, teachers, and learning.*

Bloom contrasts a view of education in the past where researchers pursued "stable or static variables" (e.g., status of the family, teacher characteristics, I.Q., length of school day or year) with the more modern and useful view where researchers focus on variables which are alterable either before the teaching-learning process takes place, or as a part of the process (e.g., time on task, teaching styles and expectations, home environment processes, and school entry behaviors).

It is believed that educators understanding and acting upon alterable variables can improve the educational enterprise and improve the achievement of children and youth.

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* Bloom, Benjamin, All Our Children Learning, McGraw-Hill, New York. 1980 p. 16

Thus, several educational researchers in Michigan and nationally have addressed the question of what makes a school effective -- e.g.,

- o The MDE beginning in 1974, with funding from the state legislature, conducted an in-depth evaluation of the effectiveness of compensatory education reading programs and found higher achievement tended to go with:
  - good teacher inservice programs focused on materials and methodologies used in the school,
  - schools and classrooms where well defined learning goals and objectives were stated,
  - schools in which teachers participated in the goal setting and school management decisions, (Also there was a high positive correlation between teacher morale and achievement. This is probably inter-related with involvement in school decision making.)
  - programs where para-professionals (if used) were used as a "second teacher," i.e., in instructional rather than clerical roles.
- o Ron Edmonds, a native Michigan educator, while a professor at a Harvard University identified several schools in Michigan and the Northeast which had high minority populations, relatively low SES, and high basic skills achievement. After studying these schools, Edmonds concluded that the main contributors to the high achievement were:
  - the strong leadership of the principal
  - the emphasis, in the school, on basic skills, and the attention to learning tasks
  - a climate in the school conducive to learning (good rapport between teachers and pupils, few behavior problems, pleasant environment)
  - the broad range of instructional methods used by teachers
  - a strong pupil assessment program, and, the use of the results to report to parents and to plan instruction.
- o Wilbur Brookover at Michigan State University conducted two studies, using MEAP data, in Michigan schools. One was focused on school climate and the other was a study of "improving schools" and "declining schools" as identified from state assessment results. Brookover in explaining the difference in improving and declining schools described two kinds of school principals, and two "mind sets" of school staff.

- In the improving schools he observed the principal to clearly be the instructional leader. The principal made sure there were clear expectations for learning, worked with staff and parents to achieve the expectations, observed teachers, and assisted them in becoming better teachers. In declining schools the principal tended to be a "laisse faire" manager. Teachers were left to set their own curriculum and expectations, and to provide instruction as they thought fit--the principal's attitude was, they are professionals let them teach.

- The staff attitude in the improving schools was characterized as--we have problems but as teachers and professionals we are in control of things and can solve the problems. The job will be demanding but these children can be motivated and can learn. In the declining schools, staff seemed to have a "woe is me" attitude. They believed kids to be worse than they used to be, parents uncooperative, and the school couldn't do everything. (Little wonder that achievement was declining.)

There are several other studies, but these were three very much drawn from Michigan schools. In addition, Department evaluations of ESEA Title I programs in Michigan have yielded school effectiveness information supportive of the other studies. Nationally there have been studies by: Michael Kean in Philadelphia, the Rand Corporation, and, the most outstanding contributions by Benjamin Bloom at the University of Chicago.

About three years ago, the Department formed an ad hoc group of local and university research and curriculum types to begin to look at the results of the broad range of the school effectiveness studies, and to critique and synthesize the findings for application in real school settings. The ad hoc group was supported by our Department staff, and the Title I, Technical Assistance Center. The survey was of emperical studies where achievement was the criterion, and the predictor variables were factors in control of educators. There were one hundred eleven such studies reviewed.

A synthesis of the findings from the studies produced eight principles, or variables, which reoccur in the literature and relate to school effectiveness. Briefly, the eight principles are:

1. The more time spent on instruction the greater the achievement gain.

   Instructional time appears to be one of the most significant variables that relate to achievement. In a global sense, time refers to the quantity of schooling-measured over intervals of months, or perhaps a year. Attendance, of course, is related to achievement...students must be in school to receive instruction. More direct evidence regarding the importance of time is found in the numerous studies focusing on "engaged" time (time on task)... the productive use of time available. A good approach to productive time use is mastery learning. Under mastery learning, students take as much personal time, and as much instructional time, as they require to attain a particular criterion. The Mastery Learning Model provides students with opportunities to experience success before they must move on to a new skill.

2. The greater the amount of parental involvement, the greater the achievement.

   Children whose parents exhibit concern for their achievement, and who expect a lot of them, tend to do better in school. This may be exhibited through direct involvement of parents, either in schools as a para-professional or through direct instruction at home...both are positive influences. Of course, interest in school activities may also be expressed through participation in parent conferences, review of home work and reports, and discussions about school.

3. High expectations on the part of the principal are associated with greater achievement.

   Principals who have expectations of their students, and who firmly believe that all their students can master the basic academic

objectives, tend to be in schools that are successful, or improving, in terms of achievement. These principals assert their instructional leadership by working with staff to set goals for both teachers and students, and by working with them for attainment of the goals. They also evaluate achievement on the basis of the goals. Principals may express their commitment in less direct ways, such as making teacher inservice opportunities available to staff.

4. <u>High teacher expectations are associated with high achievement</u>. Research has also shown that teacher expectations have a positive effect on student behavior and learning. Of course, highly related, is the belief, on the part of the teachers, that all have the ability to succeed (i.e., All Children Can Learn). This expectation is accompanied by a feeling that they, as teachers, do make a difference.

5. <u>Higher achievement gains are more likely to occur in classrooms characterized by a high degree of structure, with teachers who are supportive</u>.

Structure is manifested in several ways: 1) structure refers to goal direction, and the mutual understanding of the goals by students, parents and teachers; 2) by the extent to which the classroom is organized, efficient, and well managed; and lessons are well planned; and 3) by the amount of supervision that takes place in the classroom. Supervision is important because it enables the teacher to ensure that all students are involved in the classroom activities, and are engaging in on-task behavior as much as possible.

Organization does not mean the teacher is rigid, not humane, caring, etc. A warm supportive teacher who is able to provide supervision

and clear direction toward the achievement of clearly stated objectives, should produce notable achievement gains for the class.

6. The use of positive feedback or reinforcement by teachers is associated with greater achievement.

Teachers, who are successful in raising the achievement levels of students, tend to use a higher rate of praise and encouragement. It is important, however, not to use verbal praise, or other forms of positive reinforcement, either too much or inappropriately, i.e., non-sincere. For example, if a low-achieving student is praised for getting two of ten items correct on a test, the student may come to feel that it is acceptable to score at that level.

7. The use of tutoring is related to achievement.

Tutoring, whether by adults, older students, or same-age peers, can be an effective way to bring about better achievement. A possible explanation is that one-to-one is a superior use of instructional time and produces greater achievement. This would indicate an interrelationship of the variables, time on task and tutoring.

8. Recitation promotes greater achievement gains, and the use of "factual" questions in class is associated with greater basic skills achievement.

Several studies have found that recitation (generally defined as response by a student) is an effective means of promoting both the acquisition and retention of knowledge. There is evidence that the knowledge acquired, and retained, tends to be that of the curriculum content actually "rehearsed" by the recitation questions,

rather than content not rehearsed. In other words, it is advisable to ask questions and elicit responses about any piece of information one particularly wishes the students to learn. Recitation is effective when used by teachers with good managerial skills.

Although the results of research on the use of "factual" versus higher cognitive questions are somewhat mixed, the evidence appears to be in favor of the factual variety when basic skills attainment is the desired outcome. A factual question is one which calls for the student merely to recall verbatim, or in his own words, material previously read or taught by the teacher. Higher cognitive questions require students "to state predictions, solutions, explanations, evidence, generalizations, interpretations, or opinions."

These eight principles are by no means a comprehensive group of factors which influence achievement in schools, nor are they guaranteed to produce better achievement in all cases. Many of the principles may seem obvious and based on common sense--however--what may appear obvious is not always supported by research and/or theory.

Thereare factors which tend to influence achievement. How they influence, positive or negative, depends on how educators (the professionals) apply them. In the last analysis, the humans control the environment--research provides information, but it must be applied to make a difference. The application calls for sophisticated and professional decisions. Many of the principles are related one to another and probably need to be employed in combination.

State assessment began in Michigan with some modest goals of describing the conditions of Michigan education. It, however, became the catalyst or, as John Porter called it, "the centerfold for elementary and secondary

education in Michigan. It stretched people's thinking about curricula, delivery of services and parent and public reporting; and stimulated new educational coalitions to address the needs in education. While we continue to pursue better answers to the three questions above, there is now a fourth question--how can schools best be changed and improved to produce more learning? This question is now being addressed and could be the most challenging one of all. Remember, schools do make a difference, and we can make schools even more effective. I believe the above eight principles, when applied in a school, can improve the school, so all children will learn even better.